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CONSIDERATIONS ON THE BITTERNESS OF VEGETABLES.*

Translated for *Silliman's Journal*, by J. H. Gussone, M.D.

MR. GUILLEMIN is known among Botanists by many interesting works, and especially by the part which he has had in the publication of the *Classical Dictionary of Natural History*, and of the *Flora of Senegambia*. The dissertation which we here notice, shows that he has carefully studied the connections between botany and medicine, and tends to confirm the usefulness of that kind of study, which, as it is intermediate to the two sciences, more rarely makes a part of the direct studies of those who devote themselves to both. The work of Mr. Guillemin is founded entirely upon the general law of analogy of the properties of plants which belong to the same family, and becomes, consequently, a new confirmation of the principles exposed in the *Essay upon the medical properties of plants*, compared to their natural classification. (1 Vol. 8vo. Paris, 1816.) The author divides the families endowed with bitterness, into several groups, viz.: 1, the families purely bitter; 2d, the acrid and bitter; 3d, the astringent bitter; 4th, aromatic bitters; 5th, the cathartic bitters. He reviews the plants which enter into these different divisions, and analyses their modes of action, in as clear and precise a manner as our knowledge of them will permit. He enters particularly into some interesting details upon the *Gentians*, which contain bitterness in a high degree of intensity and purity; and his chapter upon this subject is the more interesting, as it is extracted from a large work on this family, which the author has for a long time intended, and we hope still intends, to make a botanical monograph. We might direct our attention, with great interest, to many of the articles of this dissertation; but we think, seeing the circumstances in which Europe is placed, it will be more suitable to give almost textually that which relates to the properties of aloes, and especially to its employment in the treatment of the Asiatic cholera. In inserting this article here, we shall give an idea of the wise and reflecting manner in which the author considers the subject; we shall show how general considerations may be reduced to particular applications, and perhaps we may suggest to some physicians of infected districts, or which may be so, the idea of researches beneficial to humanity.

The author remarks (page 51) that the monocotyledones are less abundantly provided with bitter juices than the dicotyledones, but that the juice extracted from the leaves of different species of aloes makes a remarkable exception to this general observation. After relating the facts

* *Considerations on the Bitterness of Vegetables, etc.*; by J. B. A. GUILLEMIN, Doctor in Medicine, &c. Paris, 1832.

known upon the chemical nature of the juice of aloes, he analyses its properties as follows.

'Aloes is one of the most eminent substances employed in medicine. It exercises its action upon the organs of digestion. In very minute doses (two or three grains) it slightly excites the stomach, and facilitates digestion; it is in this way that the health grains of Dr. Frank, and the antecubum pills, etc. act. In a stronger dose (eight grains) its action, according to most authors, extends to the intestines, and is exerted especially upon the lower tract of the digestive canal. It there increases the afflux of blood, the mucous-secretion, and occasions the expulsion of matter amassed in the large intestine. Finally, aloes when given in a stronger dose, and its use continued, gives rise to colics; the rectum becomes the seat of a genuine flux, the hæmorrhoidal vessels are distended, hæmorrhoidal tumors become painful, and frequently give place to an abundant oozing of blood. We have profited by the stimulating action, especially, which aloes exercises upon the rectum, and the determination which it produces to this part, in order to cure certain megrimis caused by obstinate constipations. In producing a useful direction towards the rectum, it has often diminished a sanguinary congestion induced towards the head.

'Such was the general opinion of physicians upon the *modus operandi* of aloes; but we have to oppose them with more positive and totally contradictory experiments.

'In a Memoir upon the employment of the aqueous extracts of aloes, and its manner of acting, published by Baron de Wedekind (Isis 1825; 11th No. p. 1227); this physician promulgates the opinion, after multiplied experiments, that the purgative effects of aloes are not dependent upon, as is the case with other cathartics, an augmentation of the intestinal secretion, and an immediate stimulation of the contractile fibres of the intestines, but that this substance is first absorbed, carried into the circulation, then secreted in great part by the liver, whose activity it increases, and is finally ejected from the body in consequence of a purgative effect which is only secondary. In fact, the purgative action of aloes is only manifested several hours after its injection, in whatever dose it may have been taken. Individuals of bilious habits are more strongly purged by aloes. The introduction of aloes into the circulation by its external application to ulcers, is sufficient to produce a purgation, and even to give rise to hæmorrhoidal accidents or to hæmorrhages. Thus, the ointment of Arthanita, which contains aloes, purges when it is employed externally.'

From experiments made upon persons in health, and from observations collected from the sick, it appears that a purgative, as, for example, a potion composed of the *laxative infusion of Vienna* three ounces, and of *sulphate of soda* one ounce, given at once, with two or four grains of aloes, acts as it would if it were given alone; but the aloes given two hours before this potion, does not begin to operate until the effect of the dose has ceased for some hours, and this second purgation does not resemble the first in relation to the appearance and odor of the matter evacuated. When, on the contrary, the aloes is given six or eight hours before this potion, the effects of the two means coincide, and the evacuations become ordinarily very abundant.

' Icterus, which Baron de Wedekind has frequently observed in the military hospitals, has been treated with constant success by means of aloes. As long as the alvine evacuations continued white or greyish, the medicine, even in very large doses (as an ounce a day), did not purge. Its cathartic effect, on the contrary, was evinced as soon as the fecal matter began to show the presence of bile in the intestinal canal, and this is one of the conditions necessary to its purgative operation. On the other hand, we run the risk of inducing a violent bilious diarrhoea if we give this substance in strong doses when the fecal matters are tinged with bile.

' Finally, an ulterior fact, which proves that the ultimate action exercised by aloes upon the large intestines is not primary, is, that lavements of tepid water, with from two drachms to half an ounce of the extract of aloes, irritate no more than lavements of warm water, and purge, when they are not returned too soon, after an interval of seven or eight hours, consequently after the medicament has been absorbed, and has traversed the circulation. Afterwards, secreted in the liver with the bile, it augments the properties of this fluid, and it is then that it manifests its particular action upon the large intestines.

' The result of the preceding observations is, that the primary action of aloes is exerted upon the liver, that this organ is excited in the same manner as the salivary glands by mercury, and the kidneys by cantharides.

' The practical conclusions which we may therefore draw, are, that aloes is principally indicated when the biliary secretion is insufficient, when there is a complete constipation, an atonic state of the colon and rectum, in icterus, which we may attribute to atony of the liver, and against ascarides which are found principally in the rectum. It is necessary to exercise great precaution in the employment of this remedy in persons of irritable habits, and those disposed to an abundant biliary secretion, and in febrile conditions. It is decidedly contra-indicated in cases of jaundice with a spasmodic condition or inflammation of the liver, in cases of biliary calculi, in obstructions of the liver with dropsy, and in cases of abdominal plethora with a disposition to hæmorrhoids.

' It is useless to give aloes with the neutral salts and other purgatives which act promptly, at least if we wish to excite the intestinal and biliary secretions at the same time; but in that case it must be given several hours before the other medicines. In order to increase simultaneously the pancreatic and hepatic secretions, we may administer a compound of aloes and calomel.

' The reading of the memoir, a very concise summary of which I have just exposed, had strongly interested me; its important conclusions were fresh in my memory, when the Asiatic cholera morbus was announced among us, about the end of March, 1832. It appeared to me that aloes might be rationally employed in the treatment of this terrible disease. Indeed, the suppression of the biliary secretion* coinciding

* We know that the principal physiological difference observed between ordinary cholera and Asiatic cholera is, that in the former there is an excess of the secretion of bile, and in the latter a suppression of this secretion. We may, and perhaps we ought, to give the latter the name of *Asiatic cholera*, which, in avoiding the always embarrassing employment of compound terms, will have the advantage of nearly expressing the character of the disease.

with the abundance of whitish or greyish dejections, is one of the most alarming symptoms. When, by the power of nature alone, or by the effect of some therapeutic agent of whose properties we are ignorant, this suppression ceases, and the dejections begin to be colored, we have then an almost infallible sign of amendment, and we may hope that the disease will not prove mortal. Indeed, if it is admissible, if it is even urgent, to make use of symptomatic medicine, it is certainly in cases like the present. To determine the intensity of a symptom whose results may be happy, is then the end of the practitioner. But, whatever may be the part which the affection of the liver acts in cholera, whether relatively to hæmatosis or to the biliary secretion, it appears to me very proper to employ aloes, either by the mouth in the form of bolus, powder or tincture, or by the anus in the form of lavements. The frightful rapidity with which the disease advances, would be the only obstacle to its employment; for, according to what we have said above, its action is slow, and is not manifested until several hours after its administration. But, may it not still be very useful to exhibit aloes to the patient at the first onset of the disease, that is to say, as soon as vomitings, dejections, coldness of the extremities, or cramps, announce a choleric attack? I communicated these reflections, in the early part of April, to the learned and unfortunate Dauce, one of the first victims of the scourge, as well as to M. Rostan, who objected that the inflammatory state of the intestines would not admit of the administration of so irritating a medicine as aloes. It is clear that these celebrated physicians grounded their supposition upon the general opinion that this medicament exerts a primary action upon the intestinal canal, and that they had not given sufficient attention to the researches of Baron Wedekind in this respect. I believe then that there is good reason, in regard to this subject, to institute experiments which may have an important bearing upon the interests of science and humanity.

‘This view, which I expressed at the beginning of July, just as the cholera was disappearing, has since been set forth by one of our most able therapists.’ Dr. Bielt, physician to the hospital Saint Louis, immediately after the communication of my paragraph upon aloes, did not hesitate to administer this substance to some choleric, and has obtained satisfactory results. The following is the note which he has had the goodness to address to me upon this subject.

“I have been very tardy, sir, in returning the manuscript which you have been so obliging as to lend me. Your researches upon aloes presented a great deal of interest; you have summed up, with great conciseness and clearness, all the facts which prove the properties of this substance, and you have been led to think that this medicine might be advantageously employed in Asiatic cholera. The objections of Dr. Rostan have great force; but in the actual state of our knowledge, it is impossible to say that all irritating substances are injurious in the treatment of this terrible malady, since we observe it modified very often under the influence of very stimulating medicines. Be this as it may, I have had recourse to aloes in three cases of very serious blue cholera, and the success has surpassed my expectations. The first case was that of a man of fifty years of age; he was attacked in the night; the mat-

ter vomited and the dejections were white and abundant ; the skin cold and livid ; the tongue cool, and the prostration extreme. The aloes was prescribed in doses of two grains every hour ; its action was slow, but at the fifth hour the stools were colored, not with the golden yellow of aloes, but with the greenish yellow of bile ; the matter vomited presented the same character. The urine soon reappeared, as well as the heat of skin. The livid tint was replaced by a lively red color. This state continued to improve. The aloes was continued for two days in the dose of twelve grains ; the amendment continued to advance. Cold mucilaginous drinks were continued, and shortly after some slight nourishment was allowed, by which means he was in a condition to leave the ward five days after entering it.

“ Still more prompt and satisfactory results were obtained with the two other patients. The one, named Guadin, aged thirty years, entered on the 18th of July, with the most serious and well-marked symptoms. The aloes, continued for two days in the quantity of nine grains, reinduced the biliary and urinary secretions and the heat, and finally caused the rapid and progressive disappearance of all the symptoms.

‘ The other, named Clement, a young man of twenty, was equally blue, having vomitings and white dejections, with but few cramps. The aloes, given at the rate of twelve grains a day, produced the same effects.

‘ This medicament has been administered only to these three patients. Its action was noticed at the end of three or four hours ; and when once commenced, it was continued without interruption. We prefer the gummy extract, the action of which appears, in general, less irritating. These three patients did not evince any trace of irritation, in their convalescence. The only well-founded objection which can be made, at present, to this medicinal substance, is the slowness of its action. It has probably already been had recourse to in India, for its presence is easily recognized in the bitter drug, a composition which is often employed in India against cholera.”

The bitter drug, of which Mr. Biett speaks, is composed of the following substances : *Aloes Socotorine*, one pound ; *Myrrh*, *Mastic*, *Benzoin*, each eight ounces ; *Rad. Colomba—Gentiana—Angelica*, each four ounces ; *Alcohol aquosi* (common brandy), thirty-six pounds ; *Tincture of Juniper*, twelve pounds. Keep forty days, and filter. This preparation is given in the dose of half an ounce to an ounce, united with a camphorated portion. This drug is only the supplement to a preceding one, which consists of eighty drops of Laudanum, a wineglass-full of brandy, and two spoonsfull of Castor oil ; another dose of brandy, to which are added forty drops of Laudanum, is sometimes given. (Medical Reposit. Feb. 1826, and Bull. de Ferussac Sc. med. VIII. 149.)

The missionaries of Serampore assure us that this medicament cures in India almost all the sick when it is administered in time. I do not doubt that the action of this drug, which on all other occasions would be qualified as *inflammatory*, should be attributed entirely to the aloes, which enters into its composition in scruple doses ; the other substances, including even the myrrh, being but insignificant drugs. In the advice which I have given for the employment of aloes against cholera, I had, by induction, another practical fact, which I ought not to pass over in in-

lence. Mr. Barberet, apothecary at Baume (Côte-d'Or), has assured me that the Polish refugees, in their passage through that city, gave to their hosts the recipe of an anticholeric liquid. It was simply that of the elixir of long life or of compound aloes, which they said had always been employed with success, and which they believed even to be an excellent prophylactic. I cannot neglect these notices, for popular remedies are not always the least efficacious. They are often, it is true, the fruits of blind empiricism; but those which really exert some action, have in their favor a multiplied experience which physicians should not disdain to verify, while endeavoring to obtain a positive idea of their mode of action in diseases.—*Bib. Univ., Aut., 1832.*

CONIUM MACULATUM.

Toxicological, Medical, and Pharmaceutical Researches upon the Conium Maculatum. By PROFESSOR FODERE.

WHEN cultivated as a scientific pursuit, Botany has been said to touch upon every science at some particular point; and a pardonable enthusiasm has added, that it is capable of communicating much interesting information upon the history of the people of antiquity, which we might search for elsewhere in vain. M. Lamark, a distinguished botanist, has asserted that exotics which have survived the desolation of cities, where they grew, may assist in making us acquainted with the locality of many places which remains a subject of doubt; and that by their means the migration of a people may be traced, by the plants which they have left upon their route. Dr. Della Cotta has likewise endeavored to support the same hypothesis; and, in his account of travels upon the coast of Barbary, he has endeavored to fix the much disputed locality of Cyrenaica, from the circumstance, that, in a particular district between Egypt and Tripoli, he had the misfortune to lose several horses, which he imagined he discovered to be owing to their eating of the celebrated poisonous plant called Sylphium by the Romans. This poison, we are told, was sold for its weight in silver, and, during the time of the empire, so high a value was attached to it, that it was kept in the public treasury, and was only sold for the service of the state, or by order of the emperor. It was so difficult to cultivate, that Pliny says it was impossible to transplant it, and that it only grew in the district of Cyrenaica. There is naturally much difficulty attached to a question of this nature, and what the sylphium really was is extremely problematical. Some have asserted that it was the plant which furnishes the assafoetida, and others that it was the saser or saserpitium, of which the Greeks and Romans made use to season their repasts. The conium maculatum has derived an interest of an antiquarian character, from the idea which has been entertained that it was by the juice of this plant that Socrates died; and, independently of this, which some may think a very inadequate matter for research, it is a subject of much interest from its frequent use in medicine. The symptoms described in the dialogue of Plato and Echebrates, the latter of whom was present, have given rise to doubts as to whether the conium maculatum was the poison employed; and it rather seemed

to have been a plant of the strychnos or laurel genus—the cherry laurel, or some plant containing prussic acid. According to the dialogue, the man who presented the poison was asked by the sage what he should do after having swallowed the draught. He answered, ‘Nothing else but to walk about until you feel your limbs becoming weary, and then lie down upon your bed; the poison will act of itself.’ Socrates, walking about, said he felt his limbs becoming weary, and he laid himself down upon his back, as the man had recommended. In the mean time the man approached, and pressed the feet and legs smartly, and inquired if he felt it. Socrates answered, No. Then he examined the limbs, and, carrying his hand farther up, he remarked that his body was cold and stiff, and said that when the cold should gain the heart, the philosopher would be no more. The whole belly was already cold; then, uncovering himself, he said, ‘Crito, I owe a cock to Esculapius—pay it for me—neglect it not.’ A short time afterwards he was seized with convulsions. The man uncovered him entirely. His eyes were fixed. Crito shut his eyes and mouth. If we inquire into the history of the employment of conium in medicine, we are met by the same uncertainty which is involved in the account of the death of Socrates, as to whether conium was the poison employed. The celebrity which it acquired by the writings of Baron Stoerck, and his successor Baron Quarin, as a discutient and specific in scirrhus and cancerous affections, is known to all. The failure of these high expectations is a subject of equal notoriety; for, not only did the patients derive no benefit from its use, but even when carried to a very considerable extent it produced no sensible effect upon the system. M. Pamer, a surgeon of Avignon, assured Fodéré that he administered an ounce of the extract in a day, with little or no sensible effect. The fault, of course, lies in the mode of preparing the extract, as we shall see from its being too long kept.

M. Guger of Heidelberg has published an elaborate analysis of the plant, which throws much light upon its properties, and enables us to account for many apparent anomalies in its history. His experiments establish the following facts:—1. That the active principle resides in an alkaloid which he has called *cicutine*. This substance is volatile, but fixed in the plant by an acid which retains it when distilled simply with water, and which passes over when distilled with the addition of potash in the water. 2. That the *cicutine* is of an oily consistence, fluid, having a very penetrating odor, pungent and offensive, differing from that of the conium, and analogous to the urine of mice. It is lighter than water, of an acrid and nauseous taste, somewhat like tobacco; soluble in water, alcohol, and ether, and very volatile in solution. It forms neutral salts with acids, which have a bitter, disagreeable taste, like tobacco. 3. That besides this, the conium contains another principle which is equally volatile, having the usual odor of the plant, but without deleterious action on the animal economy. 4. That the *cicutine* only exists in the fresh plant, and is not found when dry; that it is decomposed in six weeks in the extract (which accounts for the inertness of this preparation). Though prepared from the fresh plant, that the seeds furnish the largest quantity of this active principle, and preserve it the longest. 5. That the odor of *cicutine* with newly distilled water affects the head, and ex-

cites a flow of tears ; that the third of a drop has been found sufficient to kill a pigeon ; and a dog to whom M. Guger administered eight drops, staggered, fell, and vomited ; his pupils were dilated, and then became much contracted, and the animal died in between five and six minutes in violent convulsions. After death, the mucous tissue of the stomach was found inflamed, the heart and large vessels gorged with blood, and their irritability destroyed. 6. That the addition of a fixed alkali renders the action of conium much more energetic, which is applicable to other of the narcotico-acrids, as well as conium.

Fodéré imitated the experiments of M. Guger upon a more simple plan. He distilled the fresh plant in water to which subcarbonate of potass had been added. The product was a fluid slightly opaline, having a fragrant but very disagreeable odor. The fluid, after the excess of alkali had been neutralized by tartaric acid, was evaporated, and a greyish yellow powder was left, possessing the peculiar odor of the urine of mice, unctuous to the touch, which did not attract moisture from the atmosphere, and presenting all the chemical properties which have been assigned to cicutine by M. Guger. By the action of the acetate of lead upon the purified juice of the plant, Fodéré obtained a precipitate of a greenish yellow color, and by the action of sulphuric acid upon this precipitate he obtained what he considers the peculiar acid of the plant, which he terms the tonic acid.

Fodéré proceeded to make experiments upon animals with cicutine. He gave six grains, in different states of purity, to two rabbits. Soon afterwards the animals staggered, their pupils became dilated, they yawned and fell into a profound sleep : in half an hour they awoke and appeared well, and after a little time they began to eat cabbage leaves. It therefore appears that cicutine possesses a sedative narcotic effect, equal in power to morphine, but very inferior to strychnine. About twenty grains were administered to another rabbit ; the animal was immediately seized with convulsions, followed by tetanic rigidity of the whole body, and he fell upon his side. His pupils became dilated, then contracted ; then respiration, at first oppressed, gradually ceased altogether, and, in two minutes after swallowing the poison, the animal was dead. Upon examination of the body, the pupils were found contracted. The lungs presented brownish patches, the heart was flaccid, and its right chambers contained black fluid blood. The mucous membrane of the stomach, near the cardiac orifice, was redder than natural ; the urinary bladder, the mucous coat of which was much injected, was filled with yellow flocculent mucus.

It would therefore seem that the conium is one of the most anciently known narcotico-acrid poisons ; and it seems extremely probable that it was the fresh juice of this plant by which the Greek sage was poisoned. If we compare the history of the symptoms in Socrates with the results of the experiments upon the rabbits, we observe that they are essentially the same. The stiffness and numbness of the limbs of Socrates, which gradually gained the trunk, were precisely the tetanic rigidity observed in the inferior animals : fixed eye and convulsions were observed in both. Like opium, conium has the property of determining blood to the brain, which leads to the belief that the last words of the Greek philosopher,

addressed to Crito, to sacrifice a cock to Esculapius, were the effect of delirium, because it is well known that he suffered death for having opposed these superstitious observances.—*Jour. Comp. des Sci. Med.*

AMPUTATION OF THE ASTRAGALUS.

Case of Dislocation and Extraction of the Astragalus. By WILLIAM A. GILLESPIE, of Ellisville, Virginia.

[Communicated for the Boston Medical and Surgical Journal.]

ON the evening of the 23d of March last, I was called to a Mrs. A., a corpulent lady aged about 50, who had fallen from a horse and dislocated both ankle joints. The luxation of the right foot was accompanied by that of the astragalus, which projected through a wound of the integuments of the external ankle. This wound extended from the instep to the tendo Achilles, nearly as straight and smooth as if it had been inflicted by the knife. The severity of the injury induced me to seek consultation immediately, which I readily obtained. Our united opinion was to attempt to save the limb by removing the astragalus, and combating such symptoms as should arise. This bone was already partly without the joint, and confined to it by only a few fibres of ligament, its connections generally being ruptured, and its trochlea occupying about an angle of 45° from its natural position; consequently it could only have remained as foreign matter within the joint, without a possibility of regaining any permanent connection with it. The wound of the integuments was sufficiently large to admit of its removal without much pain or difficulty, by passing a bistoury in such direction as to separate its little remaining connections. This operation was performed early on the next day. The integuments were now approximated—three stitches, adhesive strips, and light dressings, applied. I must here observe that the pain at the time of the occurrence of the accident, and for several days afterwards, was so excruciating as to require the liberal administration of laudanum.

On the third day she complained of stiffness of the lower jaw, and difficulty of deglutition, which induced me to fear the occurrence of tetanus. Laudanum was now more freely administered, and these symptoms yielded within 24 hours. Nothing remarkable took place until April 1st, when a decided disposition to gangrene occurred. The fermenting poultice, prepared of bran, coarse flour, molasses, yeast and water, was now applied, and kept sufficiently warm to ferment by hot bricks placed on each side of the foot. In 24 hours there was most decided and great improvement in the appearance of the wound; the swelling mostly disappeared, together with the livid color and dark spots previously on the lower part of the leg; the cuticle separated, and an abscess formed on the inner ankle, which discharged a large quantity of pus. Poultices were continued for several days, mixed with a decoction of red-oak bark. On the 3d of April hectic fever supervened, attended by exhausting night sweats. Bark, wine, and the diluted sulphuric acid, were now prescribed; the hectic soon began to yield, and by the 14th of April had entirely disappeared.

I must not here omit to mention that the leg piece of Professor N. B.

Smith's apparatus for fractures of the os femoris, which is described in his 'Medical and Surgical Memoirs,' published in 1831, was early applied, and the leg suspended, which added evidently much to her comfort, and I am clearly of opinion accelerated the cure. I had seen several fractures treated in the same way with great success. On the 19th of April she had an attack of bilious pneumonia, which yielded to the ordinary remedies; but notwithstanding this, the wound healed rapidly and progressively from about the 10th of April to the 23d of May, when it was entirely healed; the cure thus occupying only two months—a much shorter time than I had anticipated, and less, I believe, than that of any case on record. She cannot yet walk, but I feel confident she will be able to do so after a reasonable time. Owing to the severity of the injury, the excessive pain from the least motion of the injured parts, and her great weight, she was at first directed to remain in the most easy posture, which was on her back, and not to be moved; consequently she passed her urine and feces in bed, which, from the difficulty of keeping the parts clean, produced considerable excoriation. I therefore constructed an apparatus (which I have not space here to describe) for raising her gently, and without the least pain, from the bed, so that a vessel could be placed under her to receive the excrements. Her situation was rendered as agreeable, perhaps, as the nature of the case would admit, which is a great point, in my estimation, in the treatment of both medical and surgical diseases. Nothing that can render the patient's confinement more comfortable, whether in mind or body, should ever be withheld, unless it be of a very injurious tendency in some respects.

The above is a statement of facts, from which, I think, some hints may be taken, or rather the testimony of the success of others strengthened. There are, I believe, but few cases on record similar to the present one, but enough to demonstrate the propriety of removing the astragalus in preference to amputation, which was formerly the established practice in such cases. Whilst modern Surgery has achieved many feats of almost incredible success in the use of the knife, I confidently believe that this science, in its present rapid march of improvement, aided by experience, will clearly reveal the practicability of saving many useful limbs, which are now sacrificed, some of them, perhaps, at the shrine of ambition thirsting for ill-earned fame, by numbering heaps of amputated limbs!

The excellent effect of the fermenting poultice, in this case, is worthy of recollection. It was prepared in such a way as to be *truly a fermenting poultice*; and its action appeared to be strongly antiseptic, whilst it destroyed the intolerable fetor of the discharges.

Another remark, with respect to the use of laudanum when we have any apprehension of the occurrence of tetanus. I am of opinion that after all severe accidents or operations attended by much sensibility and pain, it is most proper to begin its administration early, and to keep the system under its sedative influence by sufficient and repeated doses. I have little doubt, that but for the administration of this potent drug, I should have had to contend with that very formidable disease.

July, 1833.

DISPROPORTION BETWEEN FŒTUS AND PLACENTA

To the Editor of the Boston Medical and Surgical Journal.

SIR,—If the following case is thought by you to be worth a place in the Journal, it is at your service.

Mrs. B., a healthy, intelligent woman, the mother of three healthy children, became pregnant about the middle of December, 1830. Nothing unpleasant or uncommon occurred until near the middle of June following, when, after violent exertion in lifting, she 'felt something give way in her side,' which was immediately followed by a discharge of water. She had no pain, but a constant discharge of water until the 22d of September, when regular pains came on, and in about ten hours (the usual period of her former labors) she expelled a placenta of uncommon firmness, and about two thirds the usual size : its figure was nearly globular. I made search among the membranes and clots for the fœtus, and at last found it ; but so small, that the bowl of a common teaspoon would cover it. It had the appearance of more age than any fœtus I have ever seen of its size, looking much like a miniature mummy.

After the accident, there was a regular reduction of the volume of the uterus, and in about a month it had receded into the pelvis.

In less than a year from her confinement, she gave birth to a very fair boy.

Yours,

JABEZ WARD.

Perry Centre, N. Y., July 17, 1833.

BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, JULY 31, 1833.

GANGRENE OF THE MOUTH IN CHILDREN.

THE following description of this terrible disease, which is certainly rare among us, we take from the Clinique of M. Guersent, physician to the hospital for children at Paris.

The peculiar subjects of this disease are children living in narrow and ill-ventilated situations, badly nourished, and whose constitution has been enfeebled by preceding maladies. According to some authors, its origin is very peculiar ; the period of the invasion being marked by a small white spot, which soon becomes gangrenous and involves in its consequences the sphacelus of the parts adjacent. M. Guersent admits this to be often the case, but contends that it also frequently arises from simple inflammation of the gums. It may also arise from caries of the bones of the face in scrofulous subjects ; generally in this case the gangrene commences at the border of the fistulous opening, which transmits outwardly the remains of the suppurating bone. In whatever manner it appears, the march of the malady is generally the same : the tissues suddenly assume a greyish black appearance, and diffuse a gangrenous odor wholly

different from the *sétor* of false membranes : the affected part swells, the cheek becomes tense and smooth, and in examining the interior of the mouth we easily see that the soft parts are reduced to a state of soft putrescence and that the teeth are loosened. This state may continue a greater or less length of time ; the malady may remain stationary, or may continue its ravages in the buccal cavity without appearing outwardly ; but generally at the end of five or six days the tension of the cheek augments, and a deep violet spot shows itself in the centre of the tumor. The epidermis softens and is easily removed at this point, which extends gradually, and sometimes finishes by carrying away the whole side of the face. The presence of the violet color indicates that all the parts, from the mucous to the exterior, are completely sphacelous. By degrees the eschars soften, fall, and discover the bones of the jaw, affected with necrosis and deprived of their teeth. Often the children remove these themselves, without appearing to experience the slightest pain. As those who are affected with gangrene of the mouth have almost always some visceral affection, the fever is very decided through the whole disease. The absorption of the fetid ichor which inundates the gums and the interior of the mouth contributes to give it an adynamic character ; the children are weakened by degrees ; an abundant and fetid diarrhoea supervenes, and they finally fall victims to a true poisoning when the forces of nature do not suffice to free the system by the usual emunctories from the matters absorbed. Some children preserve their appetite to the last moment, and eat with voracity all the aliments presented to them. Nothing can be more hideous than these repasts, in which putrid matters and even teeth are introduced into the stomach. Those children, however, whose appetite continues, usually resist the malady the longest time.

In the post-mortem examination, the *œsophagus* is ordinarily found filled with a blackish and very fetid secretion, the whole thickness of the cheek converted into eschars, and the bones of the face *necrosed*. These necroses, the extent of which is infinitely variable, present a special character which seems to distinguish them from all others.

The osseous tissue, struck with death, is black and dry : it would seem, says M. Guersent, as if the bone had contributed all its fluid portion to augment the putrid degeneration of the soft parts.

From the very first period the absence of false membranes will prevent our confounding gangrene of the mouth with the flaky stomatitis. As little can it be confounded with carbuncle, whose native situation and march are altogether different. Some varieties of pustula maligna approach it in some degree ; but we may remark that this affection always commences with the skin, and attacks the deeper parts only consecutively ; while gangrene of the mouth commences internally with the mucous membrane, and makes its ravages in the mouth itself before extending itself to the exterior.

Treatment.—Messrs. Baro, Jonard and Guersent consider the actual cautery as the most efficacious local therapeutic to avert the progress of the disease. The application ought to be repeated according to the intensity and extent of the disease. It is not well to have recourse to caustics, such as the butter of antimony and the acids, except in cases where the disease occupies the bottom of the cavity, so that it is impossible to apply the cautery. All these caustics are attended with the inconvenience of exciting an abundant flow of saliva, by which their action is exceedingly impaired. On the contrary, cauterizing may be carried to any depth we will, by submitting the points in question to the actual cautery.

The nitrate of silver has been highly praised by some practitioners ; but the eschar which it produces is too superficial ; and if sufficient of the salt be employed to destroy a certain thickness of tissue, there would be danger that the patients would swallow a portion of it.

Sometimes the whole effect of these cauterizations is nothing, and the disease continues its course ; but in other cases the eschars are detached, the wounds clean, and the extensibility of the substance of the cheek is such that the small deformity which results from the cicatrization is not at all comparable to the loss of substance.

In the treatment of this disease, general therapeutic means ought likewise to be insisted on. As all the symptoms seem to announce a profound alteration of the fluids, M. Guersent advises the employment of tonics, to be modified according to the state of the organs diseased. The gargles ought always to be of a deterative or antiseptic nature ; those composed of the decoction of cinchona and of chloride of soda are preferable.

THE CYCLOPÆDIA OF PRACTICAL MEDICINE AND SURGERY.

UNDER this title Dr. Hays of Philadelphia has commenced the preparation of a work that is designed to form a complete library of the Medical Sciences. A Number is to be published every month, and the whole work is to comprise about forty numbers, at half a dollar each. The average size of each will be 112 pages 8vo, making in all eight large volumes. This is to be an American work ; that is, it is to contain, besides numerous extracts from French, English, and German Dictionaries and Encyclopædias now in course of publication, much information relating to American medicine, and many articles prepared expressly for Dr. H. by some of the most learned and eminent medical men in the country. So far as the plan and prospectus go, we have cause for congratulating the profession on the prospect of possessing, in so small a compass, a production that will lead them out of their doubts and difficulties respecting the diseases and remedies peculiar to their own vicinities, as well as instruct them in those departments of science that are useful alike to the Faculty of this and every other country.

The first Number of this Cyclopædia, which is just from the press of Carey, Lea & Co., fully meets our expectations, and entitles the work to the confidence of the profession. The subjects are arranged in alphabetical order, and the authors of those which compose the first part are Drs. Hays, Geddings, Coates, Wood, Dewees, Griffith, and Harris.

On Sugar, as an Antidote against Poisoning from Copper.—The conclusions which M. Postel draws from all his observations are—

1. That sugar decomposes the acetate of copper, not only at the boiling temperature, but at the ordinary one of the atmosphere, although more slowly—that this decomposition proceeds more or less rapidly, according to the concentration of the fluids; and that, under all circumstances, the coppery salt is reduced to a protoxide.

2. That sugar exerts an analogous effect in the stomach, since animals to which it is administered resist the agency of the poison much longer than when it is not; and since the morbid appearances on dissection differ considerably in the two cases.

3. The morbid appearances, when albumen has been given, are nearly the same as when sugar has been given.

4. Sugar may, therefore, be considered among the direct antidotes against poisoning from salts of copper.—*Bulletin de Therapeutique.*

Opium.—M. Pelletier has just discovered (announced to the Academy on the 24th of December) in this very complex material, a new crystalline substance, analogous (isomère) to morphine (*paramorphine*), which had escaped his first researches. It differs, essentially, from morphine in its chemical properties, although its elementary composition appears the same. It cannot be confounded, either with the *Codéine* of Robiquet, or with other substances found in opium. Its savor is like that of *pyrètre*; its solubility in alcohol and ether is infinitely greater than that of narcotine, from which it differs also in crystalline form and fusibility. From an experiment made by Magendie, it has a powerful action on the animal economy—a very feeble dose killing a dog in a few minutes. It acts on the brain and produces convulsions.—*Rev. Encyc.*

Gurgling in Flatulent Stomachs.—In fever I have witnessed several times a very peculiar species of dysphagia, evidently occasioned by flatulent distention of the stomach to such an extent that the lower portion of the œsophagus partook of this condition; at least, I conjecture so, for during the struggle of the dysphagic paroxysm, a gurgling noise was heard, as if the bit of food was met by a portion of air contained in the lower part of the œsophagus. My friend, Doctor Autenrieth, of Tübingen, has particularly remarked this symptom, or at least something like it, in what he calls the abdominal typhous fever of young people; for he says, if the patient takes any drink, a peculiar gurgling noise is heard, as if the fluid was poured into a lifeless bag. Now, in precisely such a case, Mr. Rumly and I saw a young lady affected, in addition to this noise, with so great spasmodic dysphagia, probably from the entrance of wind into the lower end of the œsophagus, that she altogether refused to drink. This phenomenon gradually disappeared, and the lady ultimately recovered; but it deserves to be remarked, that in general this symptom and the gurgling noise, described by Dr. Autenrieth, are very bad omens in fever.—*Dr. Graves.*

Furioso Delirium, consequent on the Repercussion of Erysipelas, cured by recalling the Inflammation.—A man, aged 45 years, was wounded the 24th November last in the thigh by a stabbing instrument, which penetrated four inches, and grazed the femoral artery without injuring it. M. Blandin found him in the following state : face red, pulse 100, headache ; the edges of the wound red and painful ; he was bled and put on low diet. The next day but one his state was very alarming ; face red, pulse 130, looked wild and stern ; complete loss of intellectual faculties, furious delirium, violent movements of the limbs, &c. On interrogating his parents as to what had passed, M. B. learned that the thigh, in the situation of the wound, had become of a purple red some hours after his visit, with great heat and pain, and that they had applied on the part compresses dipped in cold water and vinegar ; that under the influence of this treatment, the redness, and even the pain, had completely disappeared, and there remained but a slight yellowness in the part ; and finally, that the cerebral symptoms came on suddenly afterwards with extreme violence. M. Blandin immediately bled him, applied twelve leeches behind the ears, sinapisms to the feet, a purgative injection, and friction with tartar emetic ointment to the part which had been the seat of the erysipelas. The fifth day the inflammation returned, and extended over the internal and superior third of the thigh. The cerebral symptoms disappeared, and the patient complained only of headache and lassitude. The following days the erysipelas extended, and considerable fever set in ; this was combated by frictions with mercurial ointment, and in eight days the patient was completely recovered.—*Archives de Medecine.*

Great St. Bernard.—The Hospice of St. Bernard occupies the most elevated practicable pass of the Alps. A brotherhood of Monks has long been established there, whose hospitality and benevolence have won the praise and gratitude of every traveller. Hitherto, the only supply of fuel which has been brought to this region of eternal snow, has been painfully transported by mules from a considerable distance below. From an interesting article in the New York American, it appears that in the year 1830 a traveller from that city, who took refuge from a storm in this mansion, discovered an inferior species of anthracite among the mineral productions of an adjoining height, and caused a grate to be erected for the purpose of using it—not, however, with great success. On his return, he transmitted plans and models, and was enabled by the liberality of a few, to whom the story was told, to forward one of Dr. Nott's stoves to the Hospice. Letters have since been received, announcing its arrival, and stating that it has been put into operation with entire success. The gratitude of the brotherhood to their American friends is expressed in very animated terms.—*Daily Advertiser.*

Preparation of pure Nitrate of Silver ; by M. Bradenburgh.—Dissolve in nitric acid the common alloy of silver and copper. Evaporate to dryness, and heat the salt in an iron spoon till it ceases to boil. Dissolve, then, a very small portion in water, and try it with ammonia to see if any copper remains. If there is, heat it again a few seconds, and make a new trial : as soon as the nitrate of copper is decomposed, pour it on an oiled plate, or dilute the mass in water, and filter it to separate the deutoxide of copper set free by the decomposition of the nitrate.

New Febrifuge.—Among the vegetable bitters found in France, *Verdt-Dufols* and *Cottereau* have discovered that the leaves of the Ypréau or White Dutch Poplar hold the first rank. The fresh leaves of this tree are endowed with a bitterness which approaches to that of the Cinchona. They have been ascertained to possess, in a high degree, both in infusion and in maceration, the property of counteracting the periodicity of fevers.

Whole number of deaths in Boston for the week ending July 26, 29. Males, 15—Females, 14. Of cancer in the bowels, 3—brain fever, 1—disease of the head, 1—infantile, 4—consumption, 4—cholera morbus, 1—scarlet fever, 2—teething, 2—paralytic, 2—old age, 1—typhoid fever, 2—accidental, 1—palsy, 1—child-bed, 1—bowel complaint, 1—dyspepsia, 1. Stillborn, 1.

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